

NEW CITATION

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LIS: claim 57



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(54) TRANSPORTATION CONTAINER.

(75) BAKER, I.A.

(74) WR

(56) 32904/63 276508 70.6 71.3 67.3 36.9
19936/62 263424 57.3

(57) CLAIM 1. A transportation container having two ends and at least one side wall which define an enclosed space, at least one end being provided with a door or the like means to open said end; a guide means located along the interior of at least one of said side walls and extending longitudinally thereon; a support member transversely located within the container and slidably engaged by the guide means for movement therealong; said support member being provided with means to engage the guide means to lock the support member in a selected position upon the guide means; a movable wall mounted transversely within said container for sliding movement therein; the movable wall being positioned between the support member and said one end; a longitudinally extendable drive member mounted between the movable wall and the support member to selectively move the wall towards said one end, and an access means provided for the introduction of material into the space between the movable wall and said one end.

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COMMONWEALTH OF AUSTRALIA
PATENTS ACT 1952-1969

Form 10

COMPLETE SPECIFICATION

(ORIGINAL)

FOR OFFICE USE

Application Number: PC 0361/75
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Complete Specification—Lodged:
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and is correct for printing

23 JAN 1976

Related Art:

Fee Stamp
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501,510

TO BE COMPLETED BY APPLICANT

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Actual Inventor: JOHN ALFRED BAKER

Address for Service: c/- R.C. Wray & Associates,
London House,
214 St. George's Terrace,
Perth, W.A. 6000

Complete Specification for the invention entitled:

The following statement is a full description of this invention, including the best method
of performing it known to me:

THIS INVENTION relates to the bulk transportation of material.

In one form the invention resides in a transportation container having an opening in at least one end thereof said opening being closable by a door or the like; a guide means located on at least one wall of the container and extending longitudinally therein; a support member slidably engaged by the guide means; a locking means between the support member and guide means to lock the support member in position upon the guide means; a movable wall mounted transversely within said container for sliding moving therein, the movable wall being positioned between the support means and said one end; an extension member mounted between the movable wall and support means to selectively move the wall towards said one end; and a loading means provided for the introduction of material into the space between the movable wall and said one end.

The invention will be more fully understood in the light of the following description of one specific embodiment. The description is made with reference to the accompanying drawings of which:

Figure 1 is a side elevation of the embodiment

Figure 2 is a plan view of the embodiment

Figure 3 is an elevation of the mounting between the support member and movable wall, and

Figure 4 is a plan view of the material supports of the embodiment.

The embodiment resides in a container 11 mounted upon the trailer 13 of a semi-trailer vehicle. The rear end of the container is provided with a door 15 which preferably when closed defines the rear wall of the container. The door may take any suitable form and may be operated by any suitable means.

The upper wall of the container 11 is provided with a track 17, while the lower wall is provided with a channel 19. The track and channel provides a guide for a support member 21 which comprises a column having a pair of rollers 23 at its upper end which are engaged in the track 17 and a guide member 25 mounted at the lower end of the column to be engaged in the channel 19. The upper end of the column is provided with a locking member 27 comprising a plate member longitudinally slidably mounted upon the column. The upper end of the locking member 27 is intended to engage into slots or apertures provided along the length of the track 17. In addition the channel is provided with a plurality of transverse members 29 spaced along the length of the channel 19 in one to one correspondence with the slots in the track. The transverse members 29 are intended to be engaged by the guide member 25 of the support member. The guide 25 is formed with a hook which extends forwardly and is intended to provide positive engagement with the transverse members 29.

To move the support member 21 the locking member 27 is slid downwardly down the column to be disengaged from the slots in the track 17 and the hook of the guide 25 is disengaged from the transverse members 29 to permit the support

member 21 to be moved longitudinally along the track.

A movable transverse wall 31 is slidably mounted in the container between the rear door 15 and the support member 21. The door has a configuration conforming to the cross-sectional configuration of the container such that it slidably and sealingly engages the sides of the container. A hydraulic ram 33 is provided between the support member 21 and the movable wall 31 and when activated causes movement of the wall away from the support member 21 and towards the rear door 15.

The movable wall 31 maybe divided horizontally into an upper and lower portion which are hinged together. The upper portion may be swung towards the support member 21 to occupy a horizontal position and provide access across the movable wall. To effect the movement of the upper portion with respect to the lower portion a pair of hydraulic rams 35 are mounted therebetween. A pair of struts 37 extend rearwardly from the upper portion and are mounted at their rear end in a slide 39. The slide 39 is intended to support the struts when the upper portion is in the raised and lowered position and to support the ends of the struts when the upper portion is in its raised position and as the movable wall is moved rearwardly.

In use the container may be used for the bulk transportation of fibrous particulate or the like material which is capable

of being compressed. Such material can include wool, cotton and like fibrous material and also waste of both municipal and industrial form.

In loading the container the movable wall 31 and support member 21 is moved up towards the rear door, the upper half of the wall is then swung down to provide access into the space between the wall and rear door. The compressible material is then loaded into the space until full, at which time the upper portion of the wall is closed and the hydraulic ram is activated to drive the wall towards the rear wall and compress the material loaded. When the space is filled to capacity the movable wall 31 and support means are advanced to provide more space. Loading of the material into the space may be performed by hand or by suitable conveyor means. To empty the container the rear door is opened and the movable wall is moved to push the material from the container.

In loading the material into the space between the movable wall and rear door, rather than divide the movable wall into two portions provision may be made for loading the space between the wall and rear door from the side wall. Such a provision may comprise a number of pair of doors 41 in the side wall at spaced locations along the length of the container. The doors can provide access to the upper and/or lower portions of the space depending upon the degree of loading therein. In addition the spacing of the doors along the

container are governed by the stroke of the hydraulic ram 33.

Where the loading of the material into the doors is to be effected from ground level there may be mounted to the side of the trailer 13 a lifting means to support a container into which the material is to be loaded, and to lift the container and upend it through the doors.

It is within the scope of this embodiment that the division of the wall 31 into two halves and the provision of side doors 41 may both be present in the one container.

A preferred feature ties in the provision of a retaining means to hold the compressed wool in position between each compression. The retaining means comprises at least one track 43 provided on the walls of the container having a set of pins 45 slidably engaged therein. The pins 45 are mounted such that they extend perpendicularly from the walls of the container and while they may move rearwardly in the track they are restrained from moving forwardly by the means of rearwardly directed recesses 47 in the track which will engage and support the inner ends 49 of the pins. Prior to each compression and prior to the closing of the upper portion of the movable wall 31 or the doors 41 a pin 45 is engaged in each track 43. On activation of the hydraulic ram 33 the pin is forced rearwardly and because of the engagement of the rear wall with the support plate 51 of the pin the pin is forced somewhat out-

wardly to be forced into the recesses 47 in the track. The support plate 51 also ensures that the pins remain perpendicular to the wall on the return of the movable wall.

As the movable wall moves rearwardly so too do the pins 45 and upon the retraction of the wall the pins maintain the material in the compressed state.

1. A transportation container having; an opening in at least one end thereof, said opening being closable by a door or the like; a guide means located on at least one wall of the container and extending longitudinally thereon; a support slidably engaged by the guide means; a locking means between the support member and guide means to lock the support member in position upon the guide means; a movable wall mounted transversely within said container for sliding movement therein; the movable wall being positioned between the support means and said one end; an extension member mounted between the movable wall and support means to selectively move the wall towards said one end; and a loading means provided for the introduction of material into the space between the movable wall and said one end.

2. A container as claimed in claim 1 wherein the guide means comprises a track mounted to an upper wall of the container and extending longitudinally therealong and a channel in a lower wall of the container which is parallel to said track.

3. A container as claimed in claim 2 wherein the upper end of the support member is provided with a set of rollers which are engaged on the track to roll thereon.

4. A container as claimed in claim 2 or 3 wherein the lower end of the support member is received in the channel.

5. A container as claimed in claim 2, 3, and 4 wherein the locking means comprises a pawl member slidably mounted to the support member to selectively engage one of a number of spaced slots or recesses provided in or associated with the track.

6. A container as claimed in any one of claims 2 to 5 wherein the channel is provided with a plurality of spaced transverse members which are engaged by the lower end of the support member to prevent lower end freely sliding along the channel.
7. A container as claimed in any one of the preceeding claims wherein the movable wall comprises an upper and lower portion pivotally mounted together about a horizontal axis, the upper portion being pivotable away from said end to permit access across the wall.
8. A container as claimed in claim 7 wherein at least one hydraulic ram is mounted between the upper and lower portions to effect the pivoting of the upper portion.
9. A container as claimed in any one of the preceeding claims wherein a plurality of spaced openings are provided along the side of the container, said openings being closable by at least one door.
10. A container as claimed in any one of the preceeding claims wherein the inner surface of the container is provided with a track to slidably receive retaining members such that the retaining members can move towards said one end along said track but cannot move away from said one end along said track, the retaining members being adopted to extend perpendicularly from the inner wall.
11. A container as claimed in claim 10 wherein said track is formed with a plurality of spaced recesses the opening

of which are directed towards said end.

12. A container as claimed in claim 10 and 11 wherein said retaining means comprises a pin like member wherein the adaption to extend perpendicularly from the inner wall of the container comprises a brace member between the pin like member and the inner wall.

13. A container substantially as herein described with reference to the accompanying drawings.

DATED this fifteenth day of January, 1976.

JOHN ALFRED BAKER

Applicant.

R.C. WRAY & ASSOCIATES,
Perth, Western Australia,
Patent Attorneys for Applicant.

10559/76

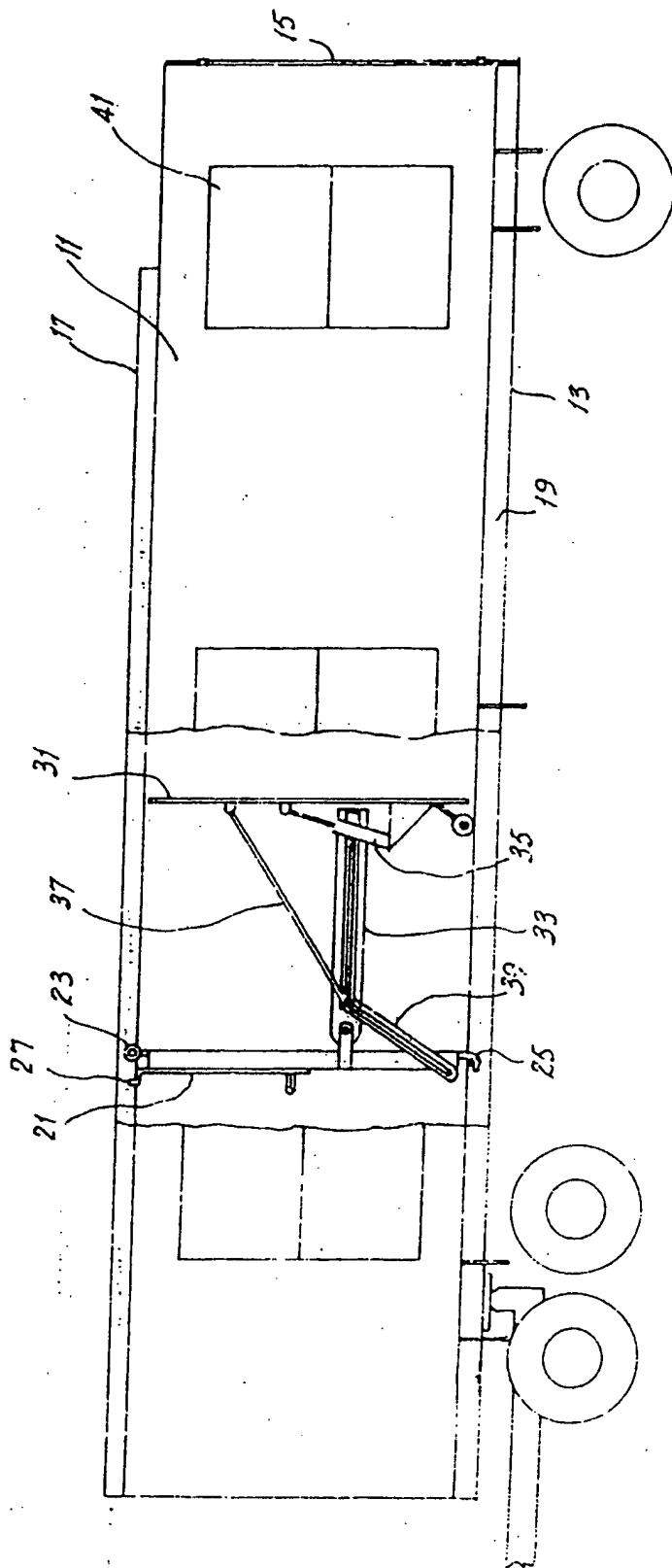


Fig. 1

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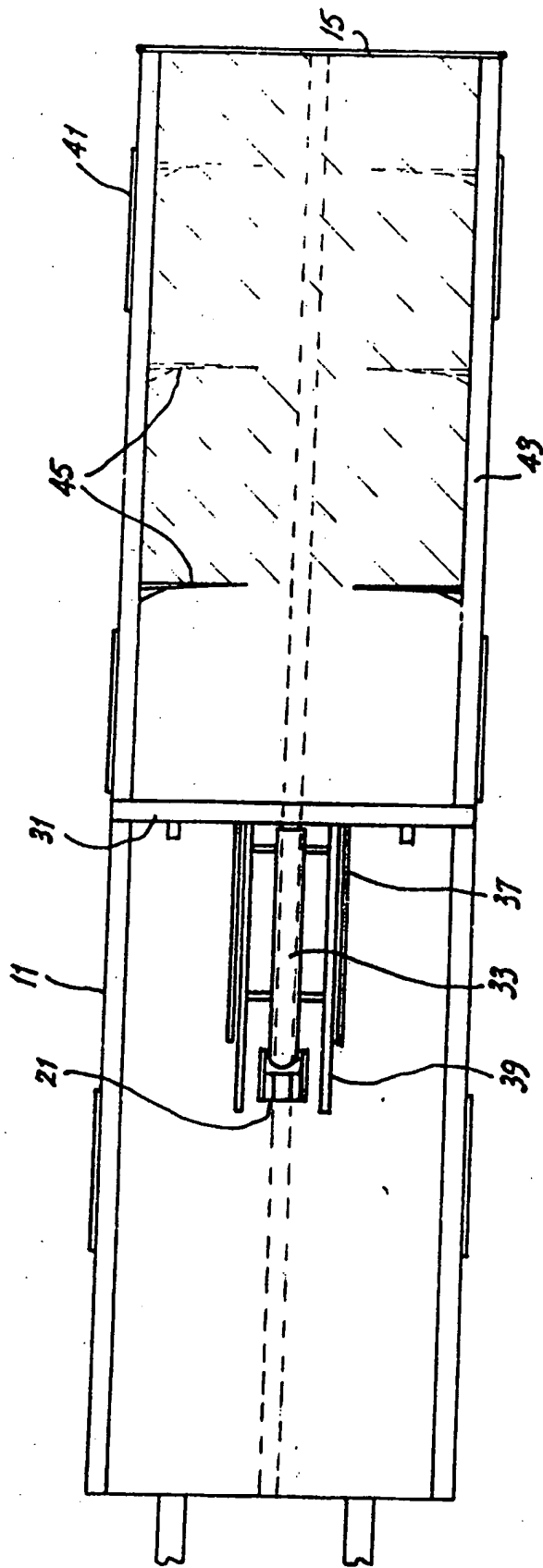
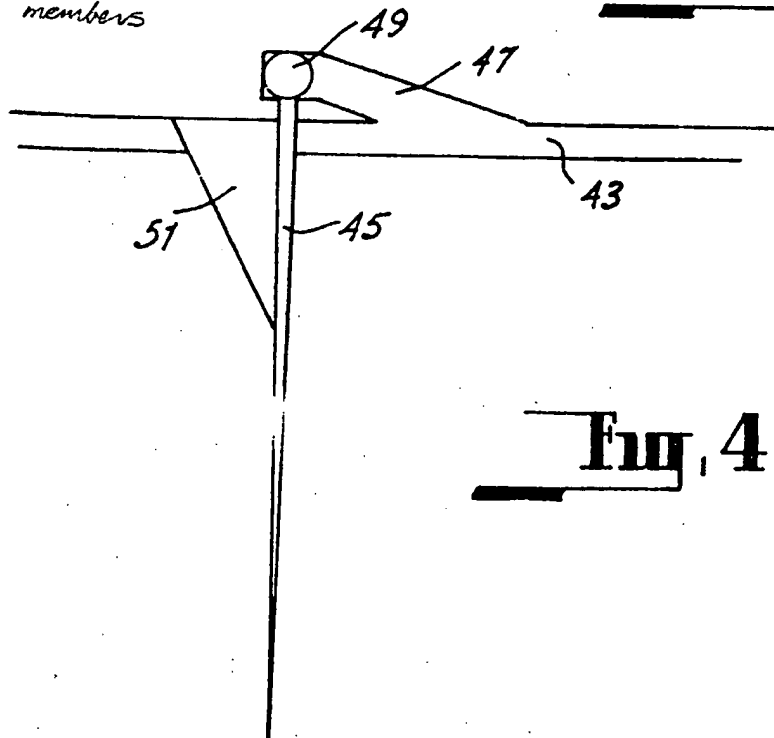
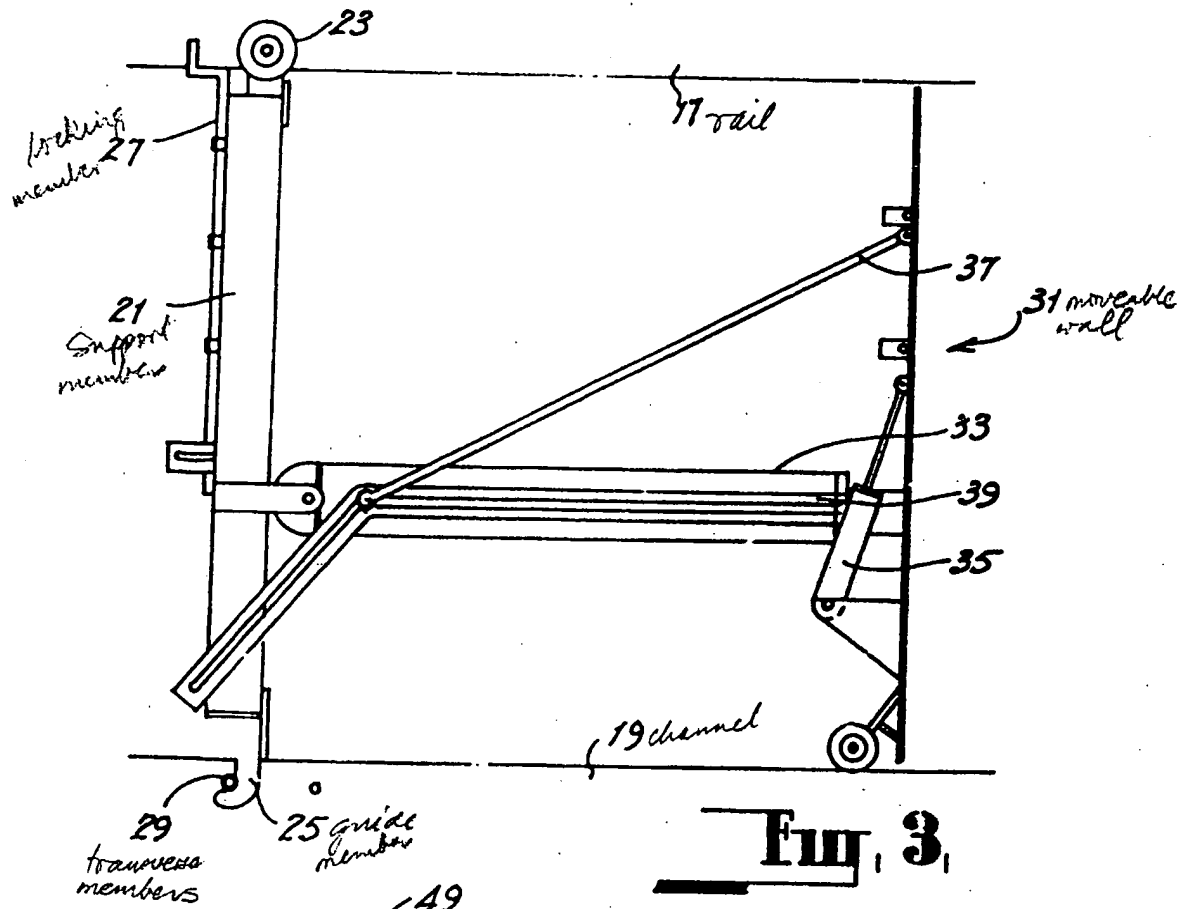


Fig. 2

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86966/75

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COMMONWEALTH OF AUSTRALIA
PATENTS ACT 1952-1969

Form 10

COMPLETE SPECIFICATION

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TO BE COMPLETED BY APPLICANT

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Actual Inventor: JOHN ALFRED BAKER

Address for Service: c/- R.C. Wray & Associates,
London House,
214 St. George's Terrace,
Perth, W.A. 6000

Complete Specification for the invention entitled:

"Improvements in the Bulk Transportation of
fibrous Material"

The following statement is a full description of this invention, including the best method
of performing it known to me :-

THIS INVENTION relates to the bulk transportation of material.

In one form the invention resides in a transportation container having an opening in at least one end thereof said opening being closable by a door or the like; a guide means located on at least one wall of the container and extending longitudinally therein; a support member slidably engaged by the guide means; a locking means between the support member and guide means to lock the support member in position upon the guide means; a movable wall mounted transversely within said container for sliding moving therein, the movable wall being positioned between the support means and said one end; an extension member mounted between the movable wall and support means to selectively move the wall towards said one end; and a loading means provided for the introduction of material into the space between the movable wall and said one end.

The invention will be more fully understood in the light of the following description of one specific embodiment. The description is made with reference to the accompanying drawings of which:

Figure 1 is a side elevation of the embodiment

Figure 2 is a plan view of the embodiment

Figure 3 is an elevation of the mounting between the support member and movable wall, and

Figure 4 is a plan view of the material supports of the embodiment.

The embodiment resides in a container 11 mounted upon the trailer 13 of a semi-trailer vehicle. The rear end of the container is provided with a door 15 which preferably when closed defines the rear wall of the container. The door may take any suitable form and may be operated by any suitable means.

The upper wall of the container 11 is provided with a track 17, while the lower wall is provided with a channel 19. The track and channel provides a guide for a support member 21 which comprises a column having a pair of rollers 23 at its upper end which are engaged in the track 17 and a guide member 25 mounted at the lower end of the column to be engaged in the channel 19. The upper end of the column is provided with a locking member 27 comprising a plate member longitudinally slidably mounted upon the column. The upper end of the locking member 27 is intended to engage into slots or apertures provided along the length of the track 17. In addition the channel is provided with a plurality of transverse members 29 spaced along the length of the channel 19 in one to one correspondence with the slots in the track. The transverse members 29 are intended to be engaged by the guide member 25 of the support member. The guide 25 is formed with a hook which extends forwardly and is intended to provide positive engagement with the transverse members 29.

To move the support member 21 the locking member 27 is slid downwardly down the column to be disengaged from the slots in the track 17 and the hook of the guide 25 is disengaged from the transverse members 29 to permit the support

member 21 to be moved longitudinally along the track.

A movable transverse wall 31 is slidably mounted in the container between the rear door 15 and the support member 21. The door has a configuration conforming to the cross-sectional configuration of the container such that it slidably and sealingly engages the sides of the container. A hydraulic ram 33 is provided between the support member 21 and the movable wall 31 and when activated causes movement of the wall away from the support member 21 and towards the rear door 15.

The movable wall 31 maybe divided horizontally into an upper and lower portion which are hinged together. The upper portion may be swung towards the support member 21 to occupy a horizontal position and provide access across the movable wall. To effect the movement of the upper portion with respect to the lower portion a pair of hydraulic rams 35 are mounted therebetween. A pair of struts 37 extend rearwardly from the upper portion and are mounted at their rear end in a slide 39. The slide 39 is intended to support the struts when the upper portion is in the raised and lowered position and to support the ends of the struts when the upper portion is in its raised position and as the movable wall is moved rearwardly.

In use the container may be used for the bulk transportation of fibrous particulate or the like material which is capable

of being compressed. Such material can include wool, cotton and like fibrous material and also waste of both municipal and industrial form.

In loading the container the movable wall 31 and support member 21 is moved up towards the rear door, the upper half of the wall is then swung down to provide access into the space between the wall and rear door. The compressible material is then loaded into the space until full, at which time the upper portion of the wall is closed and the hydraulic ram is activated to drive the wall towards the rear wall and compress the material loaded. When the space is filled to capacity the movable wall 31 and support means are advanced to provide more space. Loading of the material into the space may be performed by hand or by suitable conveyor means. To empty the container the rear door is opened and the movable wall is moved to push the material from the container.

In loading the material into the space between the movable wall and rear door, rather than divide the movable wall into two portions provision may be made for loading the space between the wall and rear door from the side wall. Such a provision may comprise a number of pair of doors 41 in the side wall at spaced locations along the length of the container. The doors can provide access to the upper and/or lower portions of the space depending upon the degree of loading therein. In addition the spacing of the doors along the

container are governed by the stroke of the hydraulic ram 33.

Where the loading of the material into the doors is to be effected from ground level there may be mounted to the side of the trailer 13 a lifting means to support a container into which the material is to be loaded, and to lift the container and upend it through the doors.

It is within the scope of this embodiment that the division of the wall 31 into two halves and the provision of side doors 41 may both be present in the one container.

A preferred feature ties in the provision of a retaining means to hold the compressed wool in position between each compression. The retaining means comprises at least one track 43 provided on the walls of the container having a set of pins 45 slidably engaged therein. The pins 45 are mounted such that they extend perpendicularly from the walls of the container and while they may move rearwardly in the track they are restrained from moving forwardly by the means of rearwardly directed recesses 47 in the track which will engage and support the inner ends 49 of the pins. Prior to each compression and prior to the closing of the upper portion of the movable wall 31 or the doors 41 a pin 45 is engaged in each track 43. On activation of the hydraulic ram 33 the pin is forced rearwardly and because of the engagement of the rear wall with the support plate 51 of the pin the pin is forced somewhat out-

wardly to be forced into the recesses 47 in the track. The support plate 51 also ensures that the pins remain perpendicular to the wall on the return of the movable wall.

As the movable wall moves rearwardly so too do the pins 45 and upon the retraction of the wall the pins maintain the material in the compressed state.

1. A transportation container having; an opening in at least one end thereof, said opening being closable by a door or the like; a guide means located on at least one wall of the container and extending longitudinally thereon; a support slidably engaged by the guide means; a locking means between the support member and guide means to lock the support member in position upon the guide means; a movable wall mounted transversely within said container for sliding movement therein; the movable wall being positioned between the support means and said one end; an extension member mounted between the movable wall and support means to selectively move the wall towards said one end; and a loading means provided for the introduction of material into the space between the movable wall and said one end.

2. A container as claimed in claim 1 wherein the guide means comprises a track mounted to an upper wall of the container and extending longitudinally therealong and a channel in a lower wall of the container which is parallel to said track.

3. A container as claimed in claim 2 wherein the upper end of the support member is provided with a set of rollers which are engaged on the track to roll thereon.

4. A container as claimed in claim 2 or 3 wherein the lower end of the support member is received in the channel.

5. A container as claimed in claim 2, 3, and 4 wherein the locking means comprises a pawl member slidably mounted to the support member to selectively engage one of a number of spaced slots or recesses provided in or associated with the track.

6. A container as claimed in any one of claims 2 to 5 wherein the channel is provided with a plurality of spaced transverse members which are engaged by the lower end of the support member to prevent lower end freely sliding along the channel.
7. A container as claimed in any one of the preceeding claims wherein the movable wall comprises an upper and lower portion pivotally mounted together about a horizontal axis, the upper portion being pivotable away from said end to permit access across the wall.
8. A container as claimed in claim 7 wherein at least one hydraulic ram is mounted between the upper and lower portions to effect the pivoting of the upper portion.
9. A container as claimed in any one of the preceeding claims wherein a plurality of spaced openings are provided along the side of the container, said openings being closable by at least one door.
10. A container as claimed in any one of the preceeding claims wherein the inner surface of the container is provided with a track to slidably receive retaining members such that the retaining members can move towards said one end along said track but cannot move away from said one end along said track, the retaining members being adopted to extend perpendicularly from the inner wall.
11. A container as claimed in claim 10 wherein said track is formed with a plurality of spaced recesses the opening

of which are directed towards said end.

12. A container as claimed in claim 10 and 11 wherein said retaining means comprises a pin like member wherein the adaption to extend perpendicularly from the inner wall of the container comprises a brace member between the pin like member and the inner wall.

13. A container substantially as herein described with reference to the accompanying drawings.

DATED this fifteenth day of January, 1976.

JOHN ALFRED BAKER

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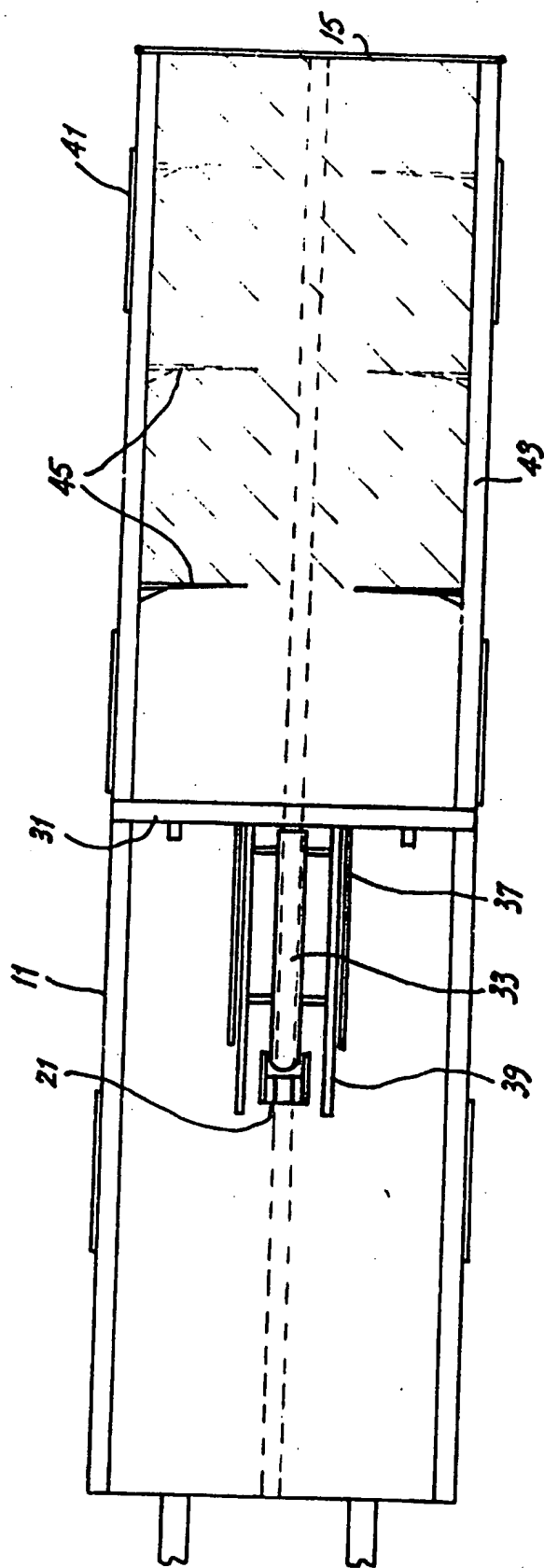


Fig. 2.

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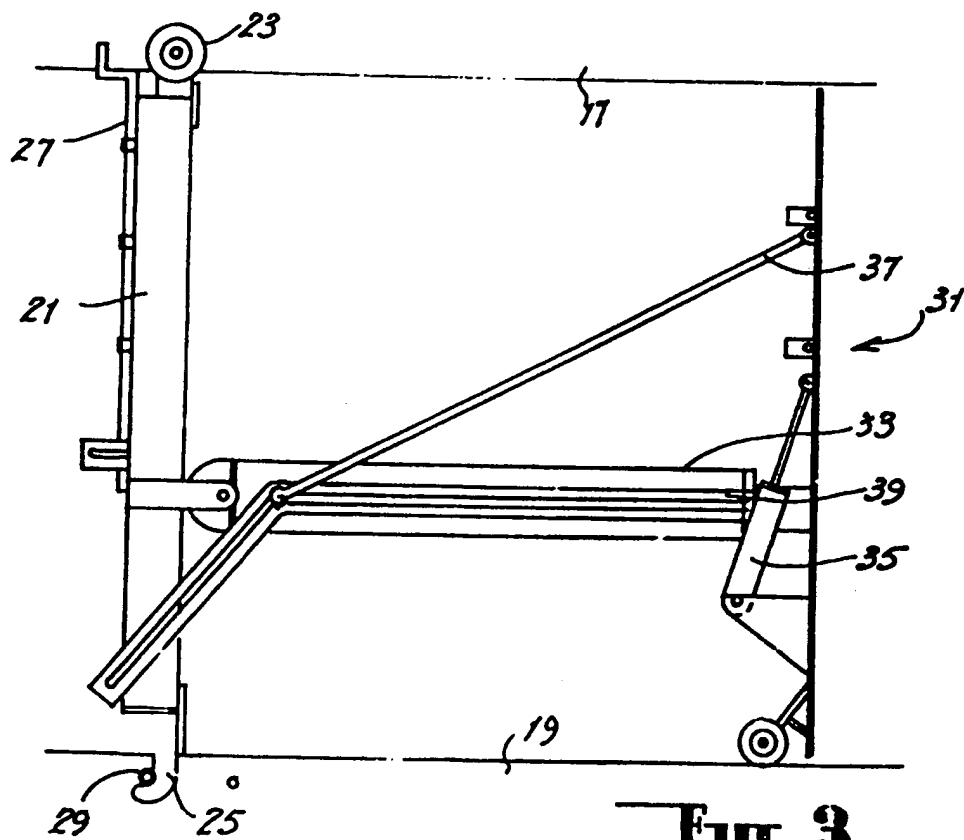


Fig. 3,

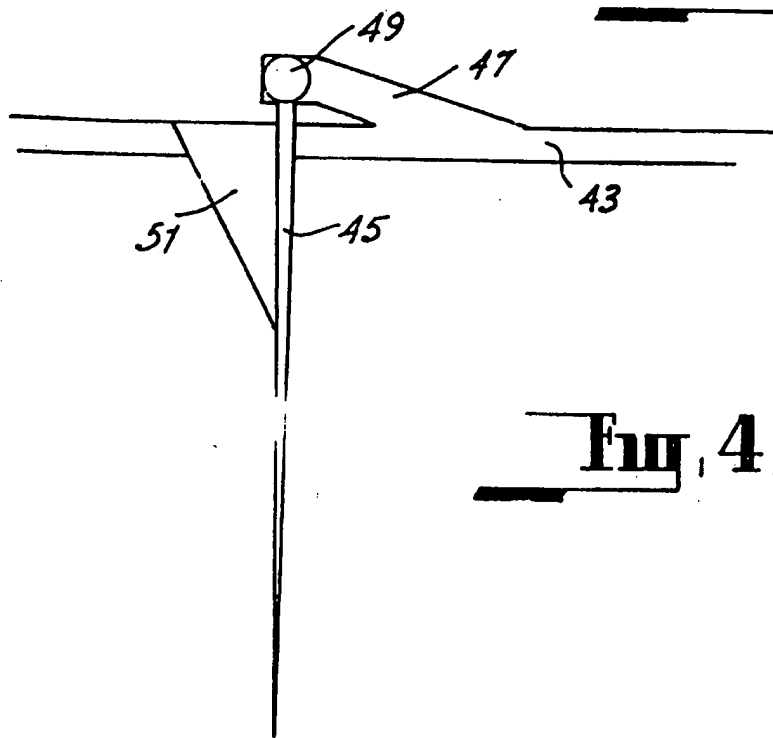


Fig. 4,

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